

# Audit



# Report

OFFICE OF THE INSPECTOR GENERAL

HOTLINE ALLEGATION ON THE PROCUREMENT  
OF F100-PW-220E MODIFICATION KITS

Report Number 91-097

June 12, 1991

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**Department of Defense**

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The following acronyms are used in this report.

AFAA.....	Air Force Audit Agency
GAO.....	General Accounting Office
J&A.....	Justification and Approval
Pratt and Whitney.....	United Technologies Corporation/ Pratt and Whitney Aircraft Group
the Program.....	F100-PW-220E Modification Program
SA-ALC.....	San Antonio Air Logistics Center
U.S.C.....	United States Code



**INSPECTOR GENERAL**  
**DEPARTMENT OF DEFENSE**  
**400 ARMY NAVY DRIVE**  
**ARLINGTON, VIRGINIA 22202-2884**

June 12, 1991

MEMORANDUM FOR COMPTROLLER OF THE DEPARTMENT OF DEFENSE  
ASSISTANT SECRETARY OF DEFENSE (PRODUCTION AND  
LOGISTICS)  
ASSISTANT SECRETARY OF THE AIR FORCE (FINANCIAL  
MANAGEMENT AND COMPTROLLER)

SUBJECT: Audit Report on the Hotline Allegation on the  
Procurement of F100-PW-220E Modification Kits  
(Report No. 91-097)

We are providing this final report for your information and use. Comments on a draft of this report were not received, as of June 10, 1991, for use in preparing the final report. We performed the audit from May 1990 through November 1990, in response to an allegation received through the DoD Hotline. The overall audit objective was to evaluate the propriety of the alleged restrictive and uneconomical sole-source procurement of modification kits for the F-15 and F-16 aircraft engine modification program and related services from a prime contractor by the San Antonio Air Logistics Center. Some components in the kits had previously been competitively procured from other contractors.

We determined that there was some merit in the allegation in that the early procurements of engine kits and spare kit modules was planned to be sole source, possibly at higher cost than open competition. During the audit, the economic issue became moot because the Air Force changed its justification for restricting competition from a primarily economic basis to a safety-of-flight basis. Available data partly supported the safety of flight argument. However, the Air Force did not fully fund the actions necessary to satisfy this safety requirement.

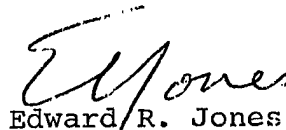
Achievement of the planned \$2.2 billion savings from the modification program was also in doubt, because of a lack of internal controls over execution of actions necessary to realize the savings. Of this total, \$80.84 million was especially at risk of being lost because of a contract option that was exercised on a predecessor program, just before our draft report was released.

DoD Directive 7650.3 requires that all audit recommendations be resolved promptly. Therefore, the Commander, San Antonio Air Logistics Center, must provide final comments for the unresolved recommendations and monetary benefits by August 14, 1991. See the "Status of Recommendations" section at the end of the finding for the unresolved recommendations and the specific requirements for your comments.

As required by DoD Directive 7650.3, the comments must indicate concurrence or nonconcurrence with the finding and recommendations addressed to you. If you concur, describe the corrective action taken or planned, the completion dates of actions already taken, and the estimated dates for completion of planned actions. If you nonconcur, state your specific reasons for each nonconcurrence. If appropriate, you may propose alternative methods for accomplishing desired improvements.

If you nonconcur with the estimated monetary benefits or any part thereof, you must state the amount you nonconcur with and the basis for your nonconcurrence. Recommendations and potential monetary benefits are subject to mediation in accordance with DoD Directive 7650.3 in the event of nonconcurrence or failure to comment. We also ask that your comments indicate concurrence or nonconcurrence with the internal control weakness highlighted in Part I.

The courtesies extended to the staff during the audit are appreciated. If you have any questions concerning this audit please contact Mr. James B. Helfrich or Mr. Danzel M. Hickie at (614) 238-4141 (DSN 850-4141). Copies of this report are being distributed to the activities listed in Appendix D.



Edward R. Jones  
Deputy Assistant Inspector General  
for Auditing

cc:  
Secretary of the Air Force

Office of the Inspector General, DoD

AUDIT REPORT NO. 91-097  
(Project No. OLE-8008)

June 12, 1991

AUDIT REPORT ON THE HOTLINE ALLEGATION ON THE  
PROCUREMENT OF F100-PW-220E MODIFICATION KITS

EXECUTIVE SUMMARY

Introduction. The audit was performed in response to a DoD Hotline complaint that the Air Force was using other than competitive procurement practices to purchase F100-PW-220E Modification Kits for F-15 and F-16 aircraft engines and related services from a prime contractor during the initial phase of the engine modification program. The complainant alleged that it would be more economical to procure kit components directly from sources other than the prime contractor. The initial procurement was expected to cost about \$379.7 million over 5 years. To complete the modification program, the Air Force planned to purchase an additional 2,240 kits (over 80 percent of the engine modification program) through a combination of breakout and competition. The law allows an agency to use other than competition when there is a limited number of sources or when the requirement is urgent and compelling.

Objective. The audit objective was to evaluate the propriety of the alleged restrictive (that is, sole source) procurement of kits and related services from a prime contractor by the San Antonio Air Logistics Center (SA-ALC) although some components in the kits had previously been competitively procured from sources other than the prime contractor. The audit also evaluated applicable internal controls.

Audit Results. We determined that there was some merit in the allegation, however, the economy issue became moot because the Air Force changed its justification for restricting competition from a primarily economic basis to a safety-of-flight basis. The need for the modification kits was determined to be urgent and compelling and the F-16 aircraft safety-of-flight issues warranted award of the sole-source contract. Delaying the procurement for breakout and competition could cause, on average, one aircraft engine mishap for each year the Program is delayed. The safety issue supports the award of a sole-source contract for at least the first phase of the modification program. However, the Air Force did not fully fund the actions necessary to satisfy this safety requirement.

We also determined that the management of the planned \$2.2 billion in savings for the F100-PW-220E modification program (the Program) was inadequate. Internal control procedures had

not been established to identify and monitor the achievement of planned savings and questionable procurement actions were taken which could negate planned savings. By exercising a contract option on a predecessor program, \$80.84 million in savings was especially at risk of being lost.

Internal Controls. Internal controls did not provide reasonable assurance that the \$2.2 billion (FY 1988 dollars) in planned savings would be met. The details on this deficiency are in the finding, and the details on our assessment of internal controls are in Part I, page 6.

Potential Benefits of Audit. Monetary benefits associated with improved internal controls are not readily identifiable and projectable. However, we estimated that \$80.84 million (FY 1988 dollars) in one-time savings were being lost because management actions resulted in a questionable procurement action. (Appendix B summarizes the Potential Monetary and Other Benefits resulting from this audit.)

Summary of Recommendations. We recommended that internal controls be strengthened to provide reasonable assurance that the Program savings objectives will be achieved as planned. We also recommend that 259 engine core upgrade kits be canceled unless the Air Force can demonstrate that it is more economical to procure the kits.

Management Comments. No comments were received on the draft of this report. The Commander, San Antonio Air Logistics Center, is required to comment on this final report by August 14, 1991. See Part II "Status of Recommendations" for the unresolved recommendations and the specific requirements for comments.

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This report was prepared by the Logistics Support Directorate, Office of the Assistant Inspector General for Auditing, DoD. Copies of the report can be obtained from the Information Officer, Audit Planning and Technical Support Directorate, (703) 614-6302.

## PART I - INTRODUCTION

### Background

The audit was performed in response to a Department of Defense Inspector General Hotline complaint made on April 25, 1990. The complainant alleged that the U.S. Air Force, San Antonio Air Logistics Center (SA-ALC), planned a sole-source purchase of F100-PW-220E Modification Kits from United Technologies Corp./Pratt and Whitney Aircraft Group (Pratt and Whitney) that was unnecessarily restrictive and uneconomical. At the time of the complaint, the SA-ALC was planning to purchase 439 engine kits, 234 spare module kits, associated data, logistics engineering services, warranty, and support equipment from Pratt and Whitney for the first phase of the F100-PW-220E Engine Modification Program (the Program). The contract was to be fixed price with indefinite delivery quantities and was expected to cost about \$379.7 million over 5 years if the Air Force exercised options for the last 2 years. To complete the modification program, the Air Force planned, in subsequent procurements, to purchase an additional 2,240 kits through a combination of breakout and competition. From the start, each Air Force order would depend on the funds available for each year of the Program.

The F100-PW-220E modification kits were to update F100 jet engines (models 100 and 200) used in the F-15 and F-16 aircraft. The Air Force expected the modification to decrease the cost of maintenance and improve performance and safety for the aircraft.

### Objective

The audit objective was to evaluate the propriety of the alleged restrictive sole-source procurement of kits and related services from a prime contractor by the SA-ALC although, allegedly, some components in the kits had previously been competitively procured from contractors other than the prime contractor (component breakout). During the audit, the objective was affected when the primary justification for awarding the sole-source contract was changed from economy to safety-of-flight. The change in primary justification made the allegation a moot issue and obviated any possible economic benefits to be gained from delaying the sole-source contract award for component breakout and competition. However, we expanded our objective and reviewed the propriety of the safety-of-flight issue. The audit also evaluated internal controls over the use of sole-source procurement and realization of savings for the F100-PW-220E modification program.



## Scope

To accomplish our original objective, we reviewed documentation pertaining to the 1990 Air Force decision to award the initial contract for the modification kits sole source rather than using component breakout and competition. Documentation reviewed included economic analyses prepared by the Air Force and transaction and procurement histories for the kit components. We statistically sampled the components of the kits for price, availability, and competitive practices in prior purchases of the components by the Air Force.

When the Air Force justification for sole-source procurement changed to include safety-of-flight, economics became of lesser importance. Documentation reviewed included contractor accident forecast data, Air Force mishap models, and accident summary data and reports from the Air Force Safety Center. We found no criteria that would enable us to correlate safety-of-flight with cost considerations and, therefore, we could not render a substantiated opinion on the reasonableness of using the restrictive sole-source procurement in terms of economy. The change to safety benefits made the results from our statistical sample of kit parts for prior competition and pricing practices irrelevant for audit reporting purposes.

To evaluate internal controls over savings, we reviewed documentation supporting selected savings planned by the Air Force to occur during the first 5 years of the Program (FY 1990 through FY 1994). The planned savings resulting from the engine modification are related to the reduction of spare and repair part requirements and the avoidance of maintenance.

This economy and efficiency audit was conducted at the activities listed in Appendix C from May through November 1990. The audit was made in accordance with auditing standards issued by the Comptroller General of the United States as implemented by the Inspector General, DoD, and accordingly, included such tests of the internal controls as were considered necessary. Experts in statistics from the Office of the Assistant Inspector General for Auditing/Quantitative Methods Division, DoD, provided assistance in our analysis of Air Force projections of engine mishaps due to safety-of-flight issues.

## Internal Controls

Our audit of internal controls focused on determining whether the Air Force controls provided reasonable assurance that the F100-PW-220E sole-source procurement conformed with Federal, DoD, and Air Force requirements and whether controls were adequate to ensure that estimated savings from the modification program would be realized. Accordingly, we reviewed the policies, procedures,

and practices relating to sole-source purchasing and savings expected from the Program.

The internal controls to restrict the use of sole-source purchases to those cases that meet the requirements of United States Code (U.S.C.), title 10, section 2304 were effective in that no material deficiencies were identified. However, in our review of the internal controls over savings, we identified a material internal control weakness as defined by Public Law 97-255, Office of Management and Budget Circular A-123, and DoD Directive 5010.38. Controls had not been established to ensure that estimated economic benefits from the modification program would be realized. Implementation of Recommendation 1. in this report will correct the weakness. The full monetary benefits that will result from correcting the internal control deficiencies were not readily identifiable and projectable with any reasonable degree of reliability because of the limited scope of our review. The savings that we reviewed to evaluate internal controls related to purchasing of parts and maintenance that could be avoided in the early years of the modification program and are not typical of the total composition of life-cycle savings for the Program. A copy of our final report will be provided to the senior official responsible for internal controls within the Air Force.

#### Prior Audits and Other Reviews

There were no prior audits of the subject area because the F100-PW-220E engine modification program is new. However, Air Force Audit Agency (AFAA) was conducting an audit of the Program as part of its audit, "Programs to Upgrade Aircraft Engines" (Project 0106215), during the time that we conducted this audit. We coordinated our audit efforts with AFAA to avoid duplication. We focused our efforts on competition for the initial contract and the estimated savings from the first 5 years of the Program, while AFAA concentrated on selected aspects of management and justification of the whole program. The AFAA plans to issue a draft report in July 1991.

#### Other Matters of Interest

Protest filed with the General Accounting Office. A protest (Protest B-239141) was filed with the Comptroller General, U.S. General Accounting Office (GAO) against Request for Proposal No. F41608-90-R-72838, issued by the SA-ALC for the F100-PW-220E modification kits. The protestor alleged that competition was unduly restricted, that individual parts in the kit should be procured competitively, and that the solicitation was defective for failing to include complete technical drawings and specifications for each of the estimated 900 parts that made up the various kits. The GAO dismissed the protest on June 1, 1990, because the Air Force had not executed a Justification and Approval (J&A) document and because our audit was reviewing the procurement. In the dismissal, GAO said that the protestor had a

right to reinstate the protest when either the J&A was executed or our audit report was issued. The J&A was approved by the Air Force on June 24, 1990. The Air Force concluded in the J&A that Pratt and Whitney was the only source that could meet the required delivery schedule for the initial phase. The protestor filed a second protest on July 12, 1990. The GAO denied the second protest on November 5, 1990, stating that Air Force's decision to justify the purchase on a total package basis, rather than initially breaking out components for competitive procurement, had a reasonable basis.

Economic analysis supporting sole-source decision. The Air Force's initial decision to award a sole-source contract, based primarily on savings, was not supported by an adequate economic analysis that considered breakout and competition versus sole-source purchase. DoD Instruction 7041.3, "Economic Analysis and Program Evaluation for Resource Management," October 18, 1972, and Air Force Regulation 173-15, "Economic Analysis and Program Evaluation for Resource Management," March 4, 1988, require that an economic analysis be made when deciding to commit resources to a new program. An economic analysis is required for proposals that involve a choice or trade-off between two or more options, considering cost, scheduling, and performance. The two analyses that the Air Force performed were improper because the Air Force assumed only sole-source purchasing for the initial purchase of each option analyzed. The analyses should have considered the cost and benefits of purchasing the kits by breakout and competition to provide comparative data to sole-source procurement. However, because of the change to safety-of-flight, economic justification is not a relevant material factor in evaluating conformance with Federal, DoD, and Air Force policies and procedures restricting the use of sole-source procurements.

Unusual and compelling urgency supporting sole-source decision. The Air Force awarded the initial F100-PW-220E Modification Kit contract on a sole-source basis because of urgent and compelling F-16 safety-of-flight needs. We found no safety data to dispute the safety-of-flight justification. Analysis of the data indicated a potential loss of life, yet we noted that the Air Force was not providing funding to fully meet the Air Force Council approved 11 year schedule for the Program. To date, funding has been provided for only 93 engine kits and 39 spare module kits for the first 2 years of the Program, about 26 percent of the kits that had been planned for that period of the Program. For details on the J&A and safety issues, see Appendix A.

## PART II - FINDING AND RECOMMENDATIONS

### MANAGEMENT OF SAVINGS FROM THE F100-PW-220E ENGINE MODIFICATION PROGRAM

Management of the planned savings from the F100-PW-220E modification program (the Program) was inadequate. Internal control procedures had not been established to identify and monitor the achievement of planned savings, and questionable procurement actions were taken which could negate planned savings. As a result, there was not reasonable assurance that the Program savings objective of \$2.2 billion (FY 1988 dollars) <sup>1/</sup> would be met. Because of a recently exercised contract option, \$80.84 million of the \$2.2 billion planned savings is particularly at risk.

#### DISCUSSION OF DETAILS

##### Background

DoD Directive 7040.6, "Internal Control System," March 24, 1982, requires DoD Components to implement a system of internal controls to ensure that resources are efficiently and effectively managed. The Air Logistics Centers' resources include funds for the purchase of spare and repair parts and aircraft engine maintenance. Planned savings from programs such as the F100-PW-220E Engine Modification Program, represent an opportunity to conserve funds by avoiding unnecessary expenditures for materiel or maintenance to support items that will be modified. Accordingly, internal controls should provide reasonable assurance that the Program savings objectives are achieved as planned.

Throughout the Program approval process, the principal justification for the Program was the considerable economic benefits that would be realized by the Air Force. The September 1990 amendment to the economic study of the Program indicated that implementation of the Program would yield savings of about \$2.2 billion (FY 1988 dollars) over the life cycle of the engines being modified. In the early years (FY 1990 through FY 1994) of the Program, the primary savings were expected to come from avoiding purchase and maintenance of parts that the Program would replace; in the later years of the Program, the principal savings were expected to come from reduced maintenance and support work load on the modified engines at user and other support activities. To ensure the realization of those economic goals, adequate internal controls are essential to avoid unnecessary purchases of parts and maintenance of engines and to provide management with information to monitor the economic efficiency of the Program.

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<sup>1/</sup> Represents savings in constant dollars using the purchasing power of the dollar in FY 1988.

## Results of Audit

Our audit of the savings expected from the Program in fiscal years 1990 through 1994 showed that internal controls were not adequate to ensure that planned savings would be realized. In that 5-year period, the Air Force expected savings of \$663.12 million (FY 1988 dollars) from the Program. Of the \$663.12 million, we selected \$410.56 million for review. We selected primarily savings that the Air Force expected to occur in FY 1990 and FY 1991 because those savings should have either already occurred or been in the process of occurring at the time of our review.

The principal test we used to determine if savings were achieved was cancellation or reduction of contracts or purchase orders for parts that the Program would replace. We also accepted documentation that provided reasonable support that savings would be achieved for current or future periods (FY 1991 through FY 1994).

We concluded that about \$243.68 million of the \$410.56 million of planned savings might not be realized because the savings elements were not identified in sufficient detail or were not being monitored to ensure achievement, as discussed below.

Identification of planned savings elements. Of the \$410.56 million of planned savings that we reviewed, the specific parts, quantities, and values (that is, elements) that comprised \$52.98 million of planned savings were not identified. SA-ALC did not have written procedures that required the identification of the specific parts, quantities and values related to planned savings. Consequently, appropriate information was not provided to the personnel in positions to achieve the savings. For example, the Air Force economic analysis included estimated savings of \$34.56 million for "Replacement Parts." SA-ALC was able to provide us with details on only \$4.03 million of the savings but the details did not provide a sound basis to determine conclusively that the savings would occur as planned.

Monitoring savings. About \$190.7 million (FY 1988 dollars) of the \$410.56 million of expected savings that we reviewed may not be realized because the SA-ALC has not effectively monitored the savings achievement from the Program. For example, the September 1990 amended economic study anticipated savings of approximately \$146.54 million by avoiding the purchase of 259 modification kits for engine core upgrades of spare engines. The engine core upgrade was not necessary because the Program will provide engines in a new configuration (220E), which will diminish the requirement for spare engine cores to support the Air Force fleet. However, the Program manager at SA-ALC for the engine core upgrade initiated purchase actions for the unneeded engine core upgrade kits. This occurred because the Program

manager was not aware of any resolve by upper management at SA-ALC to achieve savings by not procuring the engine core kits and because SA-ALC had not effectively monitored the savings to ensure that they were achieved. When we made officials at SA-ALC aware of this condition in December 1990, they informed the project manager for the engine core upgrade program of their intent to not purchase the 259 engine core kits and advised us that action would be taken to cancel the ongoing purchase. Although the planned savings from avoiding purchase of the engine core kits was \$146.54 million, based on current prices for the kits the savings would be about \$80.84 million.

Just before the release of our draft report in March 1991, the SA-ALC exercised a contract option to purchase the engine core kits, citing uncertainties with the Program as the basis for its decision. This action, when completed, will negate the planned savings of \$80.84 million. The Air Force assessment that led to its decision to continue with the upgrade was not specific either in the amount of savings that would accrue or whether there would be any economic benefit in doing the core upgrades.

We did not perform a complete analysis of the engine core upgrade program, but we did do some comparative cost analysis. That analysis showed that the break-even point to recoup the program's cost would be 8 years. Although requested, the Air Force could not provide us with a comparative cost analysis to justify its expenditure. Data provided only indicated that the 259 newly updated engine cores would be used a minimum of 3 years before retirement from the fleet. We believe that savings can still be achieved (funds put to better use) by canceling the purchase and depot installation of the engine core upgrade kits.

For the remaining \$44.16 million of the \$190.7 million reviewed, planned savings from avoiding purchase of gear pump kits were also not effectively monitored. The planned savings will not materialize because the item manager was not made aware of the planned savings and the gear pump kits were bought. Such actions by the Air Force do not indicate a commitment to the F100-PW-220E Modification Program nor an indication of urgent and compelling need.

#### RECOMMENDATIONS FOR CORRECTIVE ACTION

We recommend that the Commander, San Antonio Air Logistics Center:

1. Establish procedures and controls over planned savings for the F100-PW-220E Modification Program to include:

- a. identifying specific items, quantities, and values from which savings are expected and

b. monitoring planned actions to achieve maximum savings on the Program.

2. Issue a stop work order to the contractor on the purchase of 259 F100 engine core upgrade kits, pending completion of an analysis to determine if the upgrade of the 259 engine cores is economically justified.

#### STATUS OF RECOMMENDATIONS

Number	Addressee	Response Should Cover			Related Issues*
		Concur/ Nonconcur	Proposed Action	Completion Date	
1	SA-ALC	X	X	X	M, IC
2	SA-ALC	X	X	X	M

\* M = monetary benefits

\* IC = material internal control weakness

#### MANAGEMENT COMMENTS

The Air Force was provided a copy of the draft report on March 5, 1991, but had not provided a response as of June 10, 1991.

#### AUDIT RESPONSE TO MANAGEMENT COMMENTS

We require that the Air Force provide comments indicating concurrence or nonconcurrence on the finding, each recommendation, and the monetary benefits as required by DoD Directive 7650.3.

**PART III - ADDITIONAL INFORMATION**

- APPENDIX A: JUSTIFICATION FOR SOLE-SOURCE CONTRACT
- APPENDIX B: SUMMARY OF POTENTIAL MONETARY AND OTHER BENEFITS  
RESULTING FROM AUDIT
- APPENDIX C: ACTIVITIES VISITED OR CONTACTED
- APPENDIX D: REPORT DISTRIBUTION



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## APPENDIX A: JUSTIFICATION FOR SOLE-SOURCE CONTRACT

Sole-source contract. The Air Force's J&A required by U.S.C., title 10, section 2304(f)(1) cited Federal Acquisition Regulation 6.302-1 (U.S.C., title 10, section 2304[c][1]), as the authority for other than full and open competition. The initial J&A stated, "Since the Air Force requires deliveries as early as 1991, the Government must award an initial quantity to the only source (Pratt and Whitney) that can meet the Government's needs until breakout can be accomplished." The primary reason given for the Government to require this accelerated delivery was the life-cycle cost savings, followed by performance and safety as secondary benefits. The Air Force estimated that to use component breakout and competition for the first purchase would delay delivery by about 3 to 3.5 years.

Primary justification changed to safety-of-flight. In September 1990, the primary justification for the modification program was changed from life-cycle cost savings to safety. The delivery of the kits became urgent and compelling. U.S.C., title 10, section 2304(c)(2) was added to the authority cited in the J&A to award the contract sole source. U.S.C., title 10, section 2304(c)(2) allows the use of other than full and open competition when the agency's need is of such an unusual and compelling urgency that the Government would be seriously injured if full and open competition were used. Because of the safety issues, economics was no longer the primary factor in deciding whether delivery should be delayed so the requirement could be subject to breakout and competition.

Our review revealed no criteria to establish a trade-off between safety and economics. Based on our analysis of experiential data and analysis by Pratt and Whitney on F-16 mishaps, we determined that a delay of 3 years to allow for component breakout and competition could result in three added Class A mishaps<sup>1/</sup>, and one of those would likely involve a fatality. We concluded that the safety-of-flight justification made any conclusions on economy of lesser importance. The award of the sole-source contract, based on safety-of-flight considerations for the single engine F-16 aircraft, was supportable for at least the first phase of the modification program.

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<sup>1/</sup> Class A mishaps consist of \$1 million or more in property damage, a fatality, a permanent disability, or destruction or damage beyond economical repair to Air Force aircraft.

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APPENDIX B: SUMMARY OF POTENTIAL MONETARY AND OTHER BENEFITS RESULTING FROM AUDIT

<u>Recommendation Reference</u>	<u>Description of Benefits</u>	<u>Amount and/or Type of Benefit</u>
1.	<u>Internal Control</u> - Provide better assurance that savings are being achieved and form an accurate basis for evaluating the Program's efficiency.	<u>Undeterminable.</u> We found no reasonable basis to forecast future monetary benefits that may be realized by implementing our recommendation. The anticipated Program savings that we reviewed related primarily to parts purchases and maintenance that could be avoided in the early years of the modification program. However, 73.4 percent of the anticipated gross savings is expected to come from reductions in operation and maintenance and operating and support costs in the later years of the Program.
2.	<u>Economy and Efficiency</u> - One-time cost avoidance	<u>Funds Put to Better Use.</u> \$80.84 million in one-time cost avoidance by not purchasing kits for the upgrade of 259 engine cores. This savings would be reduced by any contract termination costs.

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## APPENDIX C: ACTIVITIES VISITED OR CONTACTED

### Department of the Air Force

Assistant Secretary of the Air Force (Acquisition),  
Washington, DC  
Headquarters, U.S. Air Force, Washington, DC  
Air Force Systems Command, Wright-Patterson Air Force Base, OH  
Air Force Logistics Command, Wright-Patterson Air Force Base, OH  
San Antonio Air Logistics Center, Kelly Air Force Base, TX  
Headquarters, Tactical Air Command, Langley Air Force Base,  
Hampton, VA  
Headquarters, Air Force Reserve, Pentagon, Washington, DC  
Headquarters, Air Force National Guard Bureau, Pentagon,  
Washington, DC  
Air Force Audit Agency, Wright-Patterson Air Force Base, OH  
Air Force Audit Agency, Kelly Air Force Base, TX  
Air Force Inspection and Safety Center, Norton Air Force Base, CA  
57th Fighter Wing, Nellis Air Force Base, NV

### Other Government

U.S. General Accounting Office, Washington, DC

### Contractors

United Technologies Corp./Pratt and Whitney Aircraft Group,  
West Palm Beach, FL  
Electro-Methods Inc., South Windsor, CT  
Kitco, Inc., Springville, UT

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## APPENDIX D: REPORT DISTRIBUTION

### Office of the Secretary of Defense

Comptroller of the Department of Defense  
Assistant Secretary of Defense (Production and Logistics)  
Assistant Secretary of Defense (Public Affairs)

### Department of the Navy

Auditor General, Naval Audit Service

### Department of the Air Force

Secretary of the Air Force  
Assistant Secretary of the Air Force (Acquisition)  
Assistant Secretary of the Air Force (Financial Management and  
Comptroller)  
Deputy Chief of Staff of the Air Force (Logistics and  
Engineering)  
Commander, Air Force Logistics Center  
Air Force Audit Agency  
Commander, San Antonio Air Logistics Center

### Defense Agencies

Director, Defense Contract Audit Agency  
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### Non-DoD

Office of Management and Budget

U.S. General Accounting Office, NSIAD Technical Information  
Center

### Congressional Committees:

Senate Subcommittee on Defense, Committee on Appropriations  
Senate Committee on Armed Services  
Senate Committee on Governmental Affairs  
Senate Ranking Minority Member, Committee on Armed Services  
House Committee on Appropriations  
House Subcommittee on Defense, Committee on Appropriations  
House Ranking Minority Member, Committee on Appropriations  
House Committee on Armed Services  
House Committee on Government Operations  
House Subcommittee on Legislation and National Security,  
Committee on Government Operations



AUDIT TEAM MEMBERS

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Danzel M. Hickle Jr., Project Manager  
Barry N. Harle, Team Leader  
Gerald J. Miller, Team Leader  
Ted R. Paulson, Auditor  
Kevin C. Currier, Auditor  
Michael J. Noe, Auditor  
Tony C. Hans, Auditor  
Scott K. Miller, Auditor  
Frank Ponti, Technical Director, Quantitative Methods Division